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Notice of Allowability	Application No.	Applicant(s)	
	10/690,895	GRAMSAMER ET AL.	
	Examiner	Art Unit	
	Stanley J. Pruchnic, Jr.	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to 18 January 2005.
2. ☒ The allowed claim(s) is/are 1, 4-14 and 16.
3. ☒ The drawings filed on 22 October 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Election/Restrictions

1. Claims 1 and 5 are generic and allowable. Accordingly, the restriction requirement as to the encompassed species is hereby withdrawn and claims 6, 8 and 13, directed to the non-elected species are no longer withdrawn from consideration since all of the claims depend from or otherwise include each of the limitations of an allowed generic claim.

In view of the above noted withdrawal of the restriction requirement as to the linked species, applicant(s) are advised that if any claim(s) depending from or including all the limitations of the allowable generic linking claim(s) be presented in a continuation or divisional application, such claims may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance: Applicant's arguments filed 18 January 2005 are persuasive regarding the amended claims.

Moreover, the applied U. S. Patent to BOWERS discloses temperature sensor 10e (Fig. 1) directly connected to electronic module 2 (Col. 3, Lines 36-51). BOWERS includes circuitry 24 (Fig. 3) for continuously monitoring the stator winding temperature (Col. 7, Lines 29-67). BOWERS further teaches it is advantageous to continuously monitor the stator winding temperature even if the rotor 5 is locked (i.e., **not moving**, Col. 8, Lines 1-7). The applied U. S. Patent to AVIANDER discloses a temperature sensor integrated into the windings of a rotor. AVIANDER is evidence that it is known in the art to use inductive coupling for obtaining a signal related to the rotor temperature.

None of the prior art of record discloses or suggests a system for monitoring a temperature prevailing in a stator unit of an electric drive including ***an electrical transmitter unit*** as claimed by Applicant in each of the independent claims,

wherein said ***electrical transmitter unit*** is configured to input the sensor signal into ***the signal processor unit of a position measurement device*** connected to the drive, and

wherein said ***electrical transmitter unit*** includes at least two inductively coupled coils, a first one of the coils associated with the signal processor unit, a second one of the coils associated with the temperature sensor, as defined in each of the independent claims, each arranged and functioning as recited in Claims 1 and 5 in combination with the other limitations of the respective claims.

Claims 4, 6-14 and 16 are allowable by virtue of their dependency upon the respective of Claims 1 and 5.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the form PTO-892 and not mentioned above disclose related temperature measurement devices and methods.

The following prior art references are cited to show temperature sensors integrated into the windings of **stator** units and configured to deliver a temperature-dependent sensor signal:

- US 6142741 A (Nishihata; Hideo et al.);
- US 6028382 A (Blalock; Christopher A. et al.);
- US 4858481 A (Abraham; William F.); and
- US 2717945 A (DRESIOS and BRIGGS).

Each of these prior art references requires the use of **direct connections** in order to transmit the electrical signals away from the **stator**. Moreover, NISHIHATA teaches the temperature sensor and control unit are connected via a shielded cable or a twisted pair and grounding with a capacitor in order to avoid the effects of **electromagnetic interference**. At the time the invention was made, one of ordinary skill in the art of rotating electrical machines would have recognized that electromagnetic interference would be **more** of a problem if it were contemplated to replace the **direct connections** of the prior art stator temperature sensors with an inductively coupled **electrical transmitter unit** as claimed by Applicant.

US 4041541 A (Frossard; Emile et al.) discloses temperature sensors located on a rotor (Fig. 6), requiring rotation of the rotor. FROSSARD teaches the use of inductive coupling to retrieve signals from the moving rotor. This solves the problem of obtaining signals from the moving part, but this would not function to remove the signals unless the rotor is in motion. In order to adapt inductive coupling arrangement to a stator, which is not in motion, an additional excitation signal would be required.

US 4721894 A (Graber; David W.) discloses a thermistor temperature sensor 30 in a voltage divider circuit (Col. 3, Lines 12-22). Coils (22, 24) are not associated with any electrical transmitter unit as claimed by Applicant. The signals relevant to the temperature of the motor can only be obtained during times when the armature winding currents are substantially zero.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanley J. Pruchnic, Jr., whose telephone number is **(571) 272-2248**. The examiner can normally be reached on weekdays (Monday through Friday), the best hours being from 8:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez (Art Unit 2859) can be reached at **(571) 272-2245**. The *Official FAX* number for Technology Center 2800 is (703) 872-9306 for all official communications.

Any inquiry of a general nature or relating to the status of this application or proceeding may be directed to the official USPTO website at www.uspto.gov or you may call the **USPTO Call Center** at **800-786-9199** or 703-308-4357. The Technology Center 2800 Customer Service FAX phone number is (703) 872-9317.

The cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site, from the Office of Public Records and from commercial sources.

Private PAIR provides external customers Internet-based access to patent application status and history information as well as the ability to view the scanned images of each customer's own application file folder(s).

For inquiries relating to Patent e-business products and service applications, you may call the **Patent Electronic Business Center (EBC)** at **703-305-3028** or toll free at **866-217-9197** between the hours of **6 a.m. and midnight Monday through Friday EST**, or by e-mail at: ebc@uspto.gov. Additional information is available on the Patent EBC Web site at: <http://www.uspto.gov/ebc/index.html>.



Stanley J. Pruchnic, Jr.
4/3/05


GAIL VERBITSKY
PRIMARY EXAMINER